

COMPARING ABDOMINAL PAIN SYMPTOMS AND THEIR CLINICAL IMPLICATIONS: A STUDY USING ELECTRONIC MEDICAL RECORD DATA FROM THE DELPHI DATABASE

Tom Freeman MD CCFP, Heather Maddocks PhD, Moira Stewart PhD, Dan Leger MD, Ian Hons MD, John Jordan MD, Julie Copeland MD

Background

- Abdominal Pain is a common symptom in Primary Healthcare.
- Knowing the characteristics of patients who present with different types of abdominal pain and their encounter outcomes may assist clinical practice.

Objective

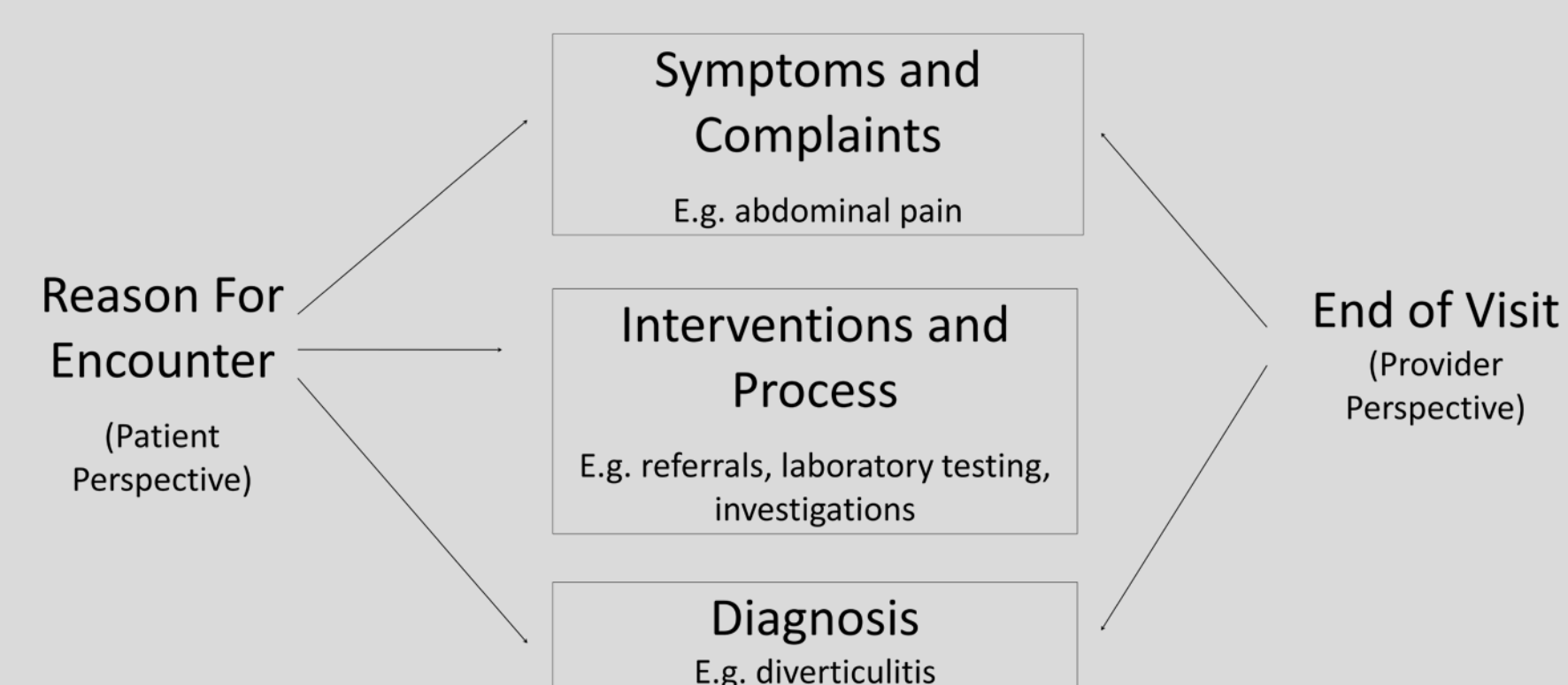
- Compare pre-encounter characteristics, within and post-encounter outcomes for three types of abdominal pain presented as patient's reason for encounter.

Methods

- Retrospective analysis of de-identified Electronic Medical Records (EMRs) in the Deliver Primary Healthcare Information (DELPHI) Database.
- 23 primary healthcare physicians located in 10 practices in southwestern Ontario, Canada.

Sample

- July 1, 2006-June 30, 2010 extract
- N=15,149 encounters coded using the International Classification of Primary Care (ICPC-2R).



Patient's Reason for Encounter:

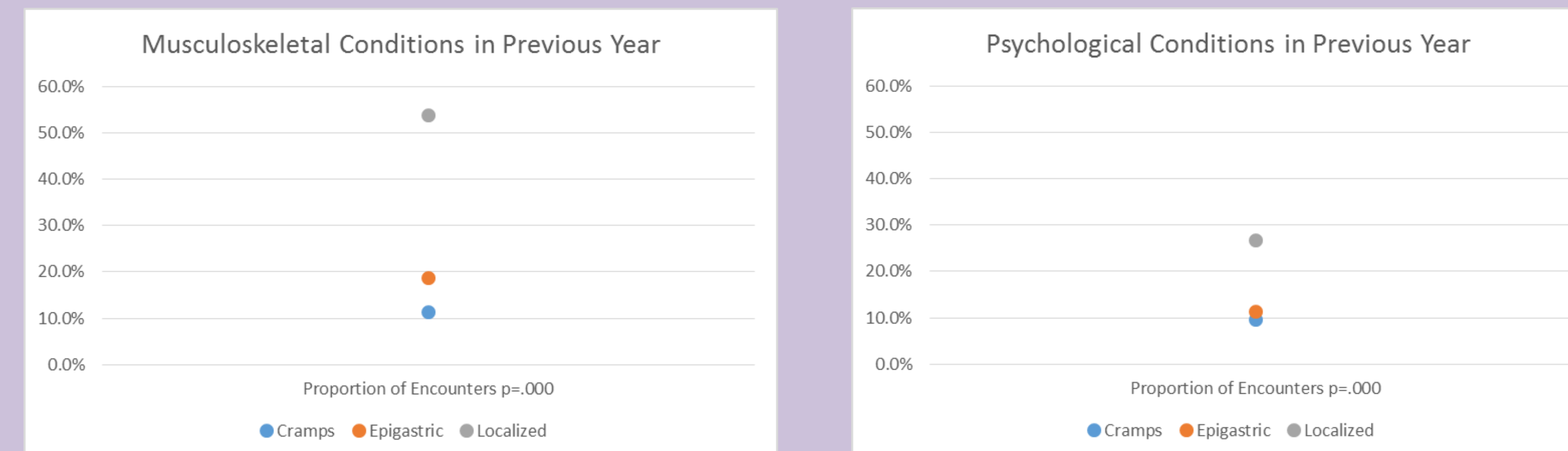
- D01 Abdominal Pain Cramps General n=116
- D02 Abdominal Pain Epigastric n=97
- D06 Abdominal Pain Localized/Other n=143

Analysis

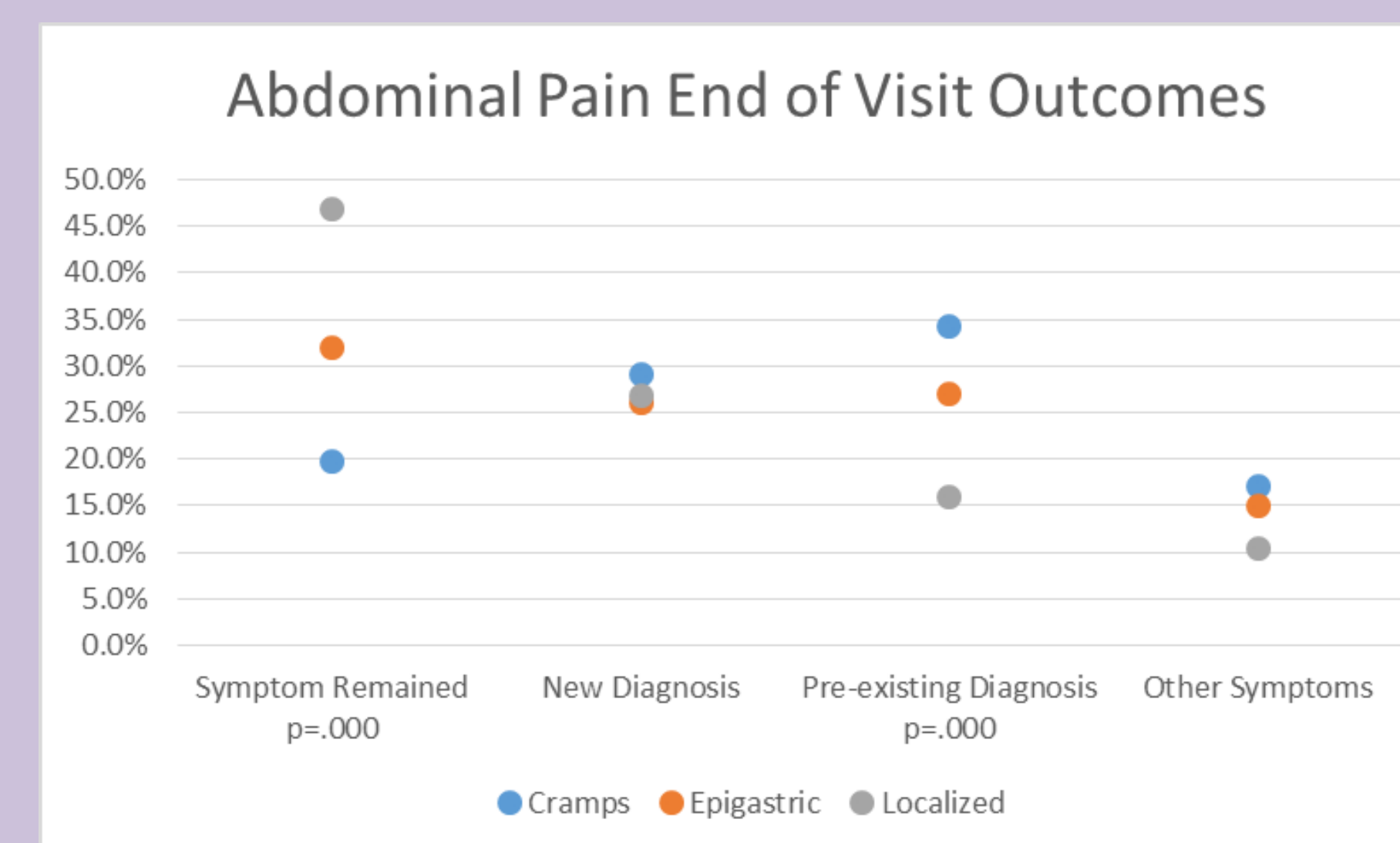
- Comparison across the three symptoms.
- Within symptom multinomial regression analyses identifying predictors of End of Visit Outcome.

Results – Differences

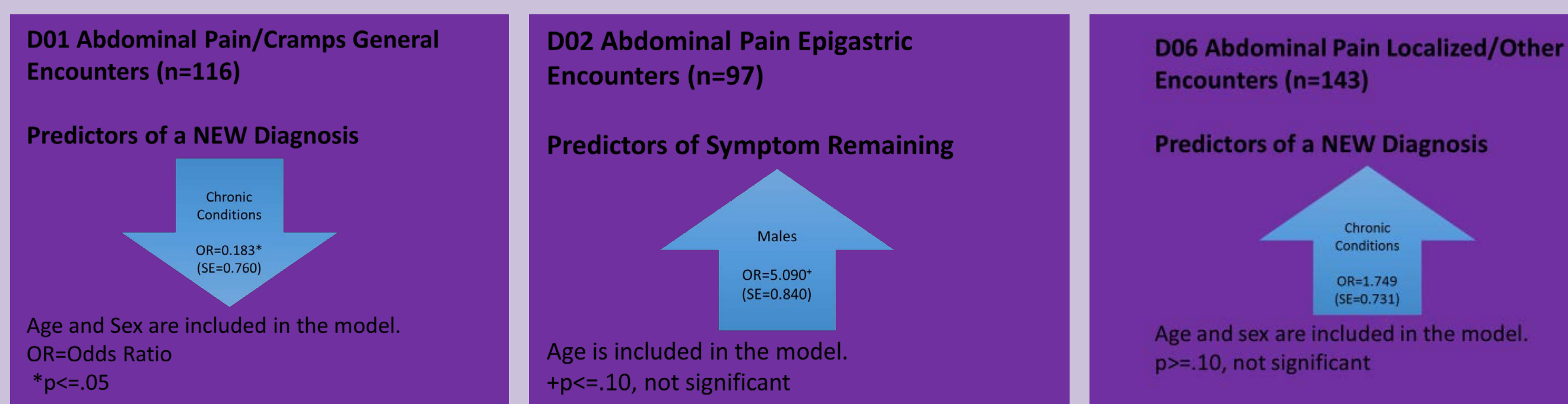
Pre-Encounter Characteristics



End of Visit Outcome



Factors Associated with End of Visit Outcome within Each Type of Abdominal Pain



Top New Diagnoses Made

D01 Cramps/General	#	%	D02 Epigastric	#	%	D06 Localized/Other	#	%
D92 Diverticular Disease	10	8.5%	D84 Oesophagus Disease	*		D92 Diverticular Disease	*	
D73 Gastroenteritis Presumed Infection	*		D96 Peptic Ulcer	*		D93 Irritable Bowel Syndrome	*	
D93 Irritable Bowel Syndrome	*		D87 Stomach Function Disorder	*		D98 Inguinal Hernia	*	

*Note: Cell sizes less than or equal to 5 have been suppressed.

Results - Similarities

- Majority female (67-72%) and under 65 years (58-70%).
- 63-69% were their first encounter for the symptom.
- 34-49% had co-occurring symptoms.
- 74-82% had chronic conditions.
- Prior social/relationship problems (10-16%).
- Laboratory tests ordered (6-11%).
- Investigations ordered (18-31%).
- Referrals made to a specialist (16-24%).

Conclusions

- At the end of the visit the symptom remained undiagnosed in 20% of cramps, 33% of epigastric and 47% of localized abdominal pain.
- Localized abdominal pain is significantly different from the other two types and is most likely to have the symptom remain at the end of the visit; prior musculoskeletal and psychological diagnoses, and less likely to have a pre-existing diagnosis at the end of the visit.
- Abdominal pain types differed in predictors of a symptom remaining and a new diagnosis being made.

Limitations

- Data quality was assessed for comparability, completeness and correctness.
- Data are from 2005-2010.

Future Research

- Similar analysis for other symptoms.
- Longitudinal analysis of symptom episodes.

For More Information

Tom.Freeman@Schulich.uwo.ca
hmaddock@uwo.ca

Location of Practices in the DELPHI Database

